ASRC Energy Services
Lynx Enterprises, Inc.

October 13, 2005

Ms. Donna Wieting
Marine Mammal Division
Office of Protected Resources
National Marine Fisheries Service (NMFS)
1315 East - West Highway
Silver Spring, MD 20910-3226

Subject: Request for Approval, Incidental Harassment Authorization to Allow Non-lethal Taking of Seals in Western Beaufort Sea, Alaska

Dear Ms. Wieting,

ASRC Energy Services, Lynx Enterprises, Inc. (AES Lynx) hereby submits the enclosed request for an Incidental Harassment Authorization (IHA), pursuant to Section 101 (a) (5) (D) of the Marine Mammal Protection Act (MMPA), 16 U.S.C § 1371 (a) (5) to allow non-lethal takes of seals incidental to a proposed offshore seismic program in western Beaufort Sea, Alaska.

Items to be addressed pursuant to 50 C.F.R. § 216.104, "Submission of Requests," and § 216.107, "Incidental Harassment Authorization for Arctic Waters," are presented in the attached application. The application describes specific operations to be conducted, areas to be utilized, proposed measures to mitigate any potential injurious effects on marine mammals, and measures to avoid or minimize potential conflicts between operations and subsistence hunting of seals. A project location map is attached.

The geophysical (seismic acquisition) program is scheduled to take place during late winter/early spring of 2006. The operation will consist of laying cables and geophones on the frozen sea ice surface. The energy source will employ the vibrosis method. A recording unit will receive and record the signals. Ground penetrating radar (GPR) will be used in advance of the vibrosis and recording operation to create and ice profile in order to ensure sufficient sea ice thickness to support the operation. In addition, holes will be drilled with an auger at intervals to confirm the accuracy of the GPR profiles. Positioning of the vibrosis and recording units will be accomplished by application of Global Positioning Systems (GPS). While, as indicated in the attached application, this on-ice seismic acquisition program will take place in late winter/early spring, it will conclude prior to April 10, 2005 to ensure no noise or physical disturbance will impact the spring seal pupping season which normally occurs after this date.

While this program is intended to be one which takes place wholly as an on-ice survey, it may be necessary to conduct a brief portion of it as an open-water activity. Experience drawn from similar seismic surveys indicates that there may be a dead zone (i.e., of inadequate or jumbled seismic signal recording) caused by an ice flexure wave in the

transition zone during the on-ice program. For this brief open-water component, cables and geophones would be deployed on the sea floor and attached to a shore-based recording unit. If the transition zone extends too far offshore to attach the umbilicus to a shore-based recording unit, the sea floor cables could be deployed from a shallow draft vessel. The energy source would involve the use of small airgun arrays. Until the data acquired from the on-ice component is analyzed and interpreted it will not be known whether or not this open-water component will be required. However, should it be necessary, the work would be performed in July or early August and therefore would occur before the season during which westward migrating bowhead whales might be present in areas well seaward from the project area.

Consultative process with the potentially affected subsistence hunting community of Nuiqsut and other stakeholder groups including the North Slope Borough to inform them of the proposed seismic program and to develop a plan of cooperation intended to avoid any potential conflicts between that program and subsistence sealing activities.

AES Lynx respectfully requests that NMFS issue an IHA for the 2006 activities to the contractor performing the seismic activity, Kuukpikveritas as detailed in the attached application .

Sincerely,

Glenn Ruckhaus
Vice President/ General Manager
ASRC Energy Services Lynx Enterprises, Inc.

Enclosures: Application for an IHA for seals
Project Location Map

cc: w/ enclosures:
Kuukpik Subsistence Oversight Panel (Nuiqsut)
Harry Brower - North Slope Borough (Barrow)
Maggie Ahmaogak - Alaska Eskimo Whaling Commission (Barrow)
Arnold Brower, Jr. - Inupiat Community of the Arctic Slope
Brad Smith - NMFS (Anchorage)
Ken Hollingshead - NMFS (Washington, D.C.)
Rick Trupp - Kuukpikveritas

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Application for Incidental Harassment Authorization for the Non-Lethal Taking of Seals in Conjunction with a Proposed Geophysical (Seismic Acquisition) Program in the Western Beaufort Sea, Alaska, in 2006.

Submitted by AES Lynx Enterprises, Inc.
for KuukpikVeritas
2000 E 88th
Anchorage, AK 99507

October 2005

The following guidance was used to prepare this request for Incidental Harassment Authorization (IHA).

> 50 CFR 216.104 "Submission of Requests"
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> (a) In order for the National Marine Fisheries Service (NMFS) to consider authorizing the taking by U. S. citizens of small numbers of marine mammals incidental to a specified activity (other than commercial fishing), or to make a finding that an incidental take is unlikely to occur, a written request must be submitted to the Assistant Administrator. All requests must include the following information for their activity:

1. A detailed description of the specific activity or class of activities that can be expected to result in incidental taking of marine mammals.

Information Required by 50 CFR § 216.104 (a):

The basic geophysical (seismic acquisition) program will be conducted in late winter/early spring (March through May 20) 2006. The operation will consist of laying seismic cables with geophones on the frozen sea ice; employing the vibrosis method of energy (sound source) production; and recording the seismic signals. The vibrosis and recording units will be deployed over the ice. To ensure adequate ice thickness (> 4 feet) to support the vibrosis and recording units, a ground penetrating radar (GPR) survey will be used in advance of the main recording operation to create an ice profile. In addition, holes will be drilled by an auger into the ice at intervals sufficient to confirm the accuracy of the GPR profiles. Positioning of the cables, vibrosis and recording units will employ Global Positioning Systems (GPS).

The potential maximum area of western Beaufort Sea to be surveyed is indicated on the attached Location Map, although the actual area surveyed will not include the entire

area. The map provided is confidential and proprietary; we request that it be excluded from any public notices.

Open-water seismic surveying is not presently planned. However, it may be necessary to return to the transition zone to reacquire data where dead zones (i.e., of inadequate or jumbled seismic signal recording) may occur as a result of an ice flexure wave during the on-ice acquisition component. This would involve a brief open-water survey component in which the cable with geophones would be deployed on the seabed and attached to a shore-based recording unit by umbilicus. The energy source would be from a small airgun array deployed from a shallow draft vessel. Should the areas to be surveyed lie too far from shore for a shore-based receiving unit to be attached to the cables by umbilicus, the recording unit would also require deployment from a shallow draft vessel. Whether this open-water component of the program will be necessary cannot be known until the data acquired from the on-ice survey is analyzed and interpreted to determine if there are any dead zone gaps in the record. In any event, the brief open-water work would occur in July and/or early August and would therefore occur before the season during which westward migrating bowhead whales might be present in areas well seaward (north) from the project area.

2. The dates and duration of such activity and the specific geographic region where it will occur:

The proposed on-ice geophysical (seismic acquisition) program will occur in March through May 20, 2006. In the event that it should be necessary, a brief open-water acquisition program would be carried out between July through early August 2006.

The specific geographical region proposed for this program lies offshore in western Beaufort Sea, Alaska. See attached Location Map.

3. The species and numbers of marine mammals:

Pinnipeds (ringed, spotted, and bearded seals) are known to occur in the activity area. Ringed seals constitute the largest number of any marine mammal species known to occupy and use the activity area. Lesser numbers of spotted seals and very few bearded seals may be present during the open-water period. Polar bear is the other marine mammal species known to use the activity area. KuukpikVeritas will seek a Letter of Authorization from the U.S. Fish and Wildlife Service (USFWS) for the intentional taking of polar bears. USFWS has management authority for polar bears.

4. A description of the status, distribution, and seasonal distribution (when applicable) of the affected species or stocks of marine mammals likely to be affected by such activities:

Ringed Seal. The relatively abundant Alaska stock of ringed seal occupies the Bearing, Chukchi, and Beaufort Seas. Past estimates of ringed seal populations in the three seas ranged from 1 to 1.5 million to 3.3 to 3.6 million animals. There are no current population estimates. A previous estimate of the ringed seal stock in the Beaufort Sea is

reported at 80,000 in summer and 40,000 during the winter. For three years in the late 1990s, unadjusted ringed seal densities on fast ice in the proposed KuukpikVeritas program area ranged from 0.61 to 0.76 seals per square kilometer.

Spotted Seal. The total number of spotted seals in Alaskan waters is not known, but is estimated most likely between several thousand to several tens of thousands. The summer distribution of the Alaska stock of spotted seal extends eastward along the continental shelf into the Beaufort Sea in relatively low numbers (for example, several tens of individuals along the central Beaufort Sea coast). Spotted seals are not known winter users of the project area.

Bearded Seal. The entire Alaskan stock of bearded seals may consist of about 300,000 to 450,000 individuals. Only a small fragment of this gross population has been observed to occupy Beaufort Sea waters. For example, only 1 of 28 and 1 of 11 bearded seal sightings during fall whale surveys of 2001 and 2002 were made within the area west from Prudhoe Bay to Barrow. Those which were observed were distributed over the continental shelf within 56 to 75 kilometers of shore. Bearded seals are expected to rarely occur in the western Beaufort Sea during the open-water season, and grounded landfast ice is expected to preclude bearded seal winter use of the project area.

5. The type of incidental taking authorization that is being requested (i.e. takes by harassment only; takes by harassment, injury and/or death) and the method of incidental taking:

Incidental harassment of pinnipeds associated with the proposed seismic program would be noise disturbance from laying cable and operation of the vibrosis unit. In the event a brief summer on-water component occurs, noise would be produced during the operation of the airguns and from operation of the vessels required to lay cable and tow the airgun array. Noise disturbance is unlikely to produce other than temporary displacement of ringed and spotted seals and would not result in physical injury to and/or death of any seals.

While operation of vehicles employed during the laying of cable has the potential to disturb and temporarily displace some mammals, any impacts will consist of behavior only. However, the disturbance is not likely to have any effect on the population as a whole due to the following:

- limited area of transect;
- random distribution of ringed seals;
- occurrence of transect in near shore waters where ringed seal densities are extremely low;
- the relatively large size of the ringed seal population in the Beaufort Sea and throughout Alaska.

Adult seals and pups can move away from audio disturbance activities, particularly since the transient equipment does not remain in any specific area for a prolonged time. Given these considerations combined with the small proportion (<1%) of the population

potentially disturbed by the proposed activity, impacts are expected to be negligible for the overall populations of ringed and bearded seal.

6. By age, sex, and reproductive condition (if possible), the number of marine mammals (by species) that may be taken by each type of taking identified in paragraph (a)(5) of this section, and the number of times such takings by each type of taking are likely to occur:

Anticipated impact of noise disturbance from laying cable, operating the vibrosis unit, operating air guns, or operating on-water vessels is expected to be limited to short-term and localized behavioral changes involving relatively small numbers of seals. Any exposure to other marine mammals will be limited to distant and transient exposure as well.

The area to be covered by the proposed geophysical (seismic) survey lies substantially over water less than 3 m (10 ft) deep where seal abundance is expected to be very low and generally considered to be poor seal habitat. Only 6 percent of 660 ringed seals observed on ice at the Northstar development area were in water depths of between 0 to 3 m (10 ft).

It is unlikely that any seal observation would reveal sufficient information to determine age, sex, and reproductive condition. The number of takings from noise disturbance can only be estimated from the assumed distribution of seals within 200 m of operating seismic acquisition equipment (cable-laying vehicles or vessels, vibrosis units, airgun arrays). The assumed distribution is less than one seal per square kilometer based on past estimates of seal populations as presented in Section 4.

7. The anticipated impact of the activity on the species or stock:

Ringed seals are winter residents of Beaufort Sea waters. There is no evidence that these mammals are disturbed by noise during the season of full ice coverage with the possible exception that some disturbance could occur to seals occupying birthing lairs during the pupping season which begins after April 10.

During the open-water season other pinniped species may be present in or near the activity area. These are spotted and bearded seals. However their densities vary and it is unlikely that more than 1 or 2 animals would be exposed to noise disturbance generated by program activities.

8. The anticipated impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses:

KuukpikVeritas anticipates no immitigable, adverse impacts on the availability of any pininiped species or stocks for subsistence uses. Any displacement of seals caused by noise disturbance would be temporary and confined to a small portion of the area used by subsistence hunters.

9. The anticipated impact of the activity upon the habitat of the marine mammal populations and/or likelihood of restoration of the affected habitats:

Because the affected area represents only a small fraction of the Beaufort Sea pinniped habitat, any impacts would be localized and temporary. Sea-ice surface rehabilitation is often immediate, occurring during the first episode of snow and wind that follows passage of the equipment over the ice. Similarly, laying cable on the sea floor creates only a temporary and transient effect which is quickly restored by movement of shallow water currents.

10. The anticipated impact of the loss or modification of the habitat on the marine mammal populations involved:

As discussed in Item 9 above, no loss of seal habitat will occur as a consequence of the planned geophysical (seismic acquisition) program. Habitat impacts resulting from placement of cable on the sea ice and/or sea bottom will be both negligible and transitory.

11. The availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or means of effecting the least practicable adverse impact upon the affected species or stocks, their habitat, and on their availability for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance:

The number of individual seals likely to be exposed to the proposed seismic operations is expected to be low. Effects on most individual seals are expected to be limited to temporary noise disturbance resulting in temporary displacement (Level B Harassment). No greater than a negligible impact is anticipated on seals and their availability for subsistence uses. Most of the proposed area supports marginal to poor seal habitat due to shallow water depths that predominate. Nevertheless, all activities will continue to be conducted to assure the least practical adverse impact on the species, habitat, and availability for subsistence uses.

12. Where the proposed activity would take place in or near a traditional Arctic subsistence hunting area and/or may affect the availability of a species or stock of marine mammal for Arctic subsistence uses, the applicant must submit a plan of cooperation or information that identifies what measures have been taken and/or will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses. A plan must include the following:

i. A statement that the applicant has notified and provided the affected subsistence community with a draft plan of cooperation;

ii. A schedule for meeting with the affected subsistence communities to discuss proposed activities and to resolve potential conflicts regarding any aspects of either the operation or the plan of cooperation;

iii. A description of what measures the applicant has taken and/or will take to ensure that proposed activities will not interfere with subsistence whaling or sealing; and

iv. What plans the applicant has to continue to meet with the affected communities, both prior to and while conducting activity, to resolve conflicts and to notify the communities of any changes in the operation.

Copies of this IHA application will be sent to the following parties which represent subsistence user communities in and near the area of planned geophysical (seismic acquisition) operations:

The Kuukpik Subsistence Oversight Panel (KSOP) – Nuiqsut
The City of Nuiqsut
North Slope Borough Department of Wildlife Management
Inupiat Community of the Arctic Slope (ICAS) – Barrow
Alaska Eskimo Whaling Commission (AEWC) - Barrow

KuukpikVeritas will request meetings with the above named parties after January 1, 2006 and at least 60 days prior to planned commencement of field operations on or about March 1, 2006. These meetings will address any conflict avoidance steps between subsistence users and the seismic operator that are appropriate. These will also specify appropriate means of communication between the operator and particularly the community of Nuiqsut through its KSOP throughout the course of field operations. In all probability, representatives(s) of the KSOP will be invited to provide on-site oversight of the operation as designated subsistence observers.

13. The suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species, the level of taking or impacts on the population of marine mammals that are expected to be present while conducting activities and suggested means of minimizing burdens by coordinating such reporting requirements with other schemes already applicable to persons conducting such activity. Monitoring plans should include a description of the survey techniques that would be used to determine the movement and activity of marine mammals near the activity site(s) including migration and other habitat uses, such as feeding:

No formal marine mammal monitoring plan is proposed for the proposed geophysical (seismic acquisition) program in 2006. However, marine mammal sightings (of both pinnipeds and polar bears) will be recorded and reported to the responsible management agencies (NMFS, USFWS, North Slope Borough). The party chief of the seismic operator will receive reports of marine mammal sightings and will complete sighting observation forms (including standard categories of location of sighting, species identification [if available], noted behavior of the animal [e.g., seal hauled out on ice], etc.)

Few, if any, seals inhabit ice-covered waters shallower than 3 m (10 ft) due to water freezing to the bottom or poor prey availability caused by the limited amount of ice-free water. These conditions characterize a majority of the proposed survey area. This also means it is likely that few, if any seal lairs will occur in the project area. For work in waters deeper than 3 m (10 ft) KuukpikVeritas proposes to use local Inupiat subsistence hunters to screen the routes for lairs. This screening has been used successfully on previous on-ice surveys (McCovey 2001) to identify and avoid lairs. Takes by noise disturbance of seals in the area can only be estimated using the density estimates of 13 seals per 100 square kilometers reported by Moulton et al (2001) for water depths between 0 to 3 m in the Northstar development area which is the only density estimate stratified by water depth for the Beaufort Sea. This would be an overestimation requiring substantial downward adjustment to reflect actual take of seals using lairs, since few, if any, of the structures in these water depth would be used for birthing (Moulton et al [2001] estimate includes all species of seals).

14. Suggested means of learning of, encouraging, and coordinating research opportunities, plans, and activities relating to reducing such incidental taking and evaluating its effects:

Both on-ice and open-water seismic operations have been conducted in the Beaufort Sea region for more than 30 years and, during this time, there have been no noticeable adverse impacts from seismic activities on pinniped populations or on the availability of pinniped species for subsistence uses. Moreover, any effects on seal habitat have been temporary and localized including effects associated with noise disturbance. However, to further ensure that there will be no adverse affects resulting from geophysical (seismic acquisition) operations, KuukpikVeritas will continue to cooperate with the NMFS, MMS, USFWS and other appropriate federal agencies, the State of Alaska, the North Slope Borough, Inupiat Community of the Arctic Slope, and subsistence user communities such as Nuiqsut to coordinate research opportunities and assess all measures that can be taken to eliminate or minimize any impacts from these activities on Beaufort Sea marine mammal populations.